

Coverage Followup for the 2010 Census

Spring 2006 Advisory Committee Meetings

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This document is being provided to the Census Bureau's Advisory Committees prior to upcoming meetings. It is preliminary in nature and in the early stages of development. As such, it is subject to revision. Our intent in making this working document available at this time is to inform ongoing discussions related to 2010 Census planning.

U S C E N S U S B U R E A U

Coverage Followup for the 2010 Census

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History of coverage problems

Historically, the decennial census has been affected by undercounts that affect certain demographic groups more than others (babies, minorities), as well as people in certain living situations (renters who move often, people whose residence is complicated or ambiguous).

In Census 2000, we learned that the census was affected by a much higher rate of erroneous enumeration and duplication than had been realized. Erroneous enumerations also are more likely to occur for certain demographic groups and in certain living situations (college students, nursing home residents, etc.).

Two components of the coverage improvement program addressed here are the Coverage Followup (CFU) program and a new universe of housing units to include in Field Verification.

In Census 2000, the CFU operation was conducted on the phone and specifically addressed completing the enumeration of large households and clarified the enumeration in housing units where the reported household size was different than the number of persons for which data were provided. This is the basis for funding of the CFU program in the 2010 Census.

During the 2004 Census Test, the 2005 National Content Test, and 2006 Census Test, the Census Bureau is testing different criteria for identifying a household for followup. The additional criteria are not currently funded for inclusion in the 2010 Census. The Census Bureau is also pursuing the feasibility and potential gains in coverage by conducted a personal visit followup. This component of the CFU is also not currently funded. The inclusion of a new universe of housing units to include in Field Verification is also not funded. All of the above new program features are being evaluated for feasibility and to determine if they are effective in improving coverage in the Census.

Coverage Followup

CFU interviews in the decennial censuses are traditionally used to do a followup interview with the respondent to determine if changes should be made to their household roster as reported on their initial census return. Households are identified for followup if they meet our criteria. In our testing we are attempting to identify the specific criteria to be used in 2010 to identify followup cases.

The questions in the followup interview probe to identify if people were missed. It also probes to determine if people were counted in error because they should be

counted at a different address. Corrections to the roster are made if necessary and the interview is treated as a census response.

Identification of Cases for CFU

Cases will be selected because they meet our criteria for having an increased likelihood that the roster of household members reported on their initial census enumeration is incorrect (according to the Decennial Census residence rule). Below is a discussion of the six cases. The first two cases were used in the Census 2000 CFU operation. For the remaining four cases, we are researching them in the 2005 National Census Test and the 2006 Census Test for use in the 2010 Census CFU operation.

Large household (LHH) cases are included in the coverage followup universe primarily to collect demographic information for persons beyond the first six on the census mail return form. These types of cases have been shown by past research to have an increased likelihood that there are people on the roster that should be counted somewhere else and they have increased likelihood that there are people missing from the roster. Coverage followup is sometimes able to ADD &/or REMOVE people from these households. In 2010, the estimated universe is 1,300,000 cases, or one percent of all households.

Cases where the number of persons reported on the form is not the same as the reported household size or **count discrepancy cases** are included in the coverage followup universe. For example, the household size was listed as three by the respondent, but only two persons were data defined on the form. A person is determined to be data defined if there are at least two data items (demographic characteristics, including name) supplied for that person. Coverage followup is sometimes able to ADD &/or REMOVE people from these households with count discrepancies. The estimated universe is 1,300,000 cases in 2010 (one percent of all the households).

We believe there is an increased likelihood in some situations that there are people missing from the roster. In these situations coverage followup is sometimes able to ADD people to these households. Based on the respondent supplied data and auxiliary data, we are researching the value of identifying households in two new situations for possible followup. They are:

- **Positive responses to the Undercount Coverage Question – This question is asked during the initial census enumeration. It is designed to identify households where there are additional people who lived there on Census Day, but were not included in the count given by the respondent. The categories cue the respondent about some of the types of people we want them to consider.**
 - Categories being tested include Children ... , Relatives ..., Non relatives..., People staying temporarily, people moving out, people just moving in, people moving between places

- If proven successful in testing, we will followup households if they answer 'yes' to one or more of the categories for this question.
- The estimated universe is 5,200,000 cases in 2010 (4 percent of all the households)

- **Identification through the use of administrative records. If proven successful in testing, the census returns in 2010 would be matched to a database of administrative records. Households are identified for followup where one or more persons on the comparable administrative record are not present on the census return.**

We also believe there is an increased likelihood in some situations that there are people on the roster that should be counted somewhere else. In these situations coverage followup is sometimes able to REMOVE people from these households after determining that a person should be counted on a different census return. Based on the respondent supplied data and computer matching, we are researching the value of identifying households in two additional new situations for followup. They are:

- **Positive responses to the Overcount Coverage Question - This question is asked during the initial census enumeration. It is designed to identify individual people on a census return that sometimes live somewhere else. The categories cue the respondent about some of the types of people we want them to consider.**
 - Categories being tested include to attend college, to stay at a seasonal or second residence, while in the military, to be closer to work, for a child custody arrangement, while in jail or prison, while in a nursing home, for another reason.

- If proven successful in testing, we will follow up with households that answer 'yes' to one or more of the categories for this question. However, we may limit followup on some of the categories, based on the age of the person, or decide not to followup on a category at all. For example we may not followup young children who mark that they are in the military if tests show that followup does not yield changes to the roster. We may also decide not to followup on some of the categories marked, such as 'other', if in tests it does not identify people to be removed from the census.
- The estimated universe is 13,000,000 cases in 2010 (10 percent of all the households)

– **Identification through Unduplication processing – We plan to match census returns to themselves. We will identify households in which at least one person appears to have been counted at more than one housing unit in different blocks. We will also identify households in which at least one person appears to have been counted at a housing unit and in a group quarters facility in different blocks. For example, a college student was listed on his or her parents' return as well as in a college dorm.**

- No followup interview will take place at a group quarters facility
- The estimated universe is 1,950,000 cases in 2010 (1.5 percent of all the households)

Some households may be eligible for more than one of these situations. We will only interview those households once. The workload estimates assume no overlap, which we know to be false. We are currently researching how much these situations overlap.

Continued analysis will inform what the most effective universes are for improving coverage. Some universes may be cut or scaled back because they don't result in changes to the household roster. In addition, budget implications may also force cuts to the scale of the program.

Telephone and, Possibly, Field Followup

Interviews will be conducted by telephone up to six months after a census response was received. During the course of telephone interviewing interviewers may leave a 1-800 phone number on an answering machine for respondents to call the Census Bureau to complete the CFU interview.

We are currently pursuing the feasibility and potential gains of conducting some of the CFU by personal visit interviewing. If proven successful in testing, any case that we are unable to complete by telephone would be sent to the field for followup. In addition, some cases may not be followed up by telephone but will be sent to the field directly; this is primarily the case when we have no phone number for the household. In 2010, we estimate that 66 percent of the cases

attempted by phone will be completed over the phone. We estimate that 40 percent of the overall CFU cases would be eligible for field followup either because they are straight to the field cases or because they were unable to be completed by phone.

Interview Overview

The CFU is a dependent interview in which the roster originally collected in the census is read to the respondent. After reading the roster we then ask:

- probes about missing people -
 - babies and newborns
 - foster children
 - other non-related children
 - relatives
 - roommates and boarders
 - anyone who stayed at the household often
 - anyone who had no other place to live
- probes about whether anyone on the roster had another place to stay -
 - college students
 - children in custody arrangements
 - people with vacation or second homes
 - people with more than one place to stay due to a job
 - anyone who stays elsewhere part-time for any reason
- a series of questions asked of each person who indicated they had multiple residences. The questions determine where the person should be counted according to census residence rules (where they were most of the time),
- a series of questions to determine if anyone was in a group quarters facility on Census Day.

If anyone was identified as potentially counted in error or omitted in error based on the CFU interview, we will determine if that person should be counted in that household according to the census residence rules.

Field Verification

Field Verification is a decennial census operation that is used to verify the existence of housing units. This operation is used to verify new housing units. In 2000 a primary component of the Field Verification Operation were Be Counted Forms. That is, if someone felt that they were not included on a Census 2000 questionnaire for any reason, they could fill out a Be Counted Form. The addresses given on the Be Counted Forms frequently went on to Field Verification if they were not previously identified as housing units on our decennial address list. In this operation, we attempt to validate the existence of the new address and verify that it is not a duplicate of another address already on our address list. The focus of the Field Verification operation is to correct or update the decennial address list. Field Verification is not an enumeration operation.

To help improve census coverage, a new universe of cases for field verification is being tested. Households in the proposed universe are identified through unduplication processing. Households in which at least one person appears to have been counted at more than one housing unit and the housing units are in the same block would be included in the universe.

At such a small local level we believe that the person duplication is caused either by the same housing unit being listed on our address list more than once or due to form misdelivery. When the housing unit is on our address list more than once, that is housing unit duplication. We can fix the person duplication by fixing the housing unit duplication. When the person duplication at this local level is caused by form misdelivery it means that the same household filled out two census forms for two different addresses. It also means that one household was not enumerated. Field Verification will determine that both housing units do exist. If both housing units exist no enumeration of the households will take place. This means that either the person duplication will remain in the census or we will remove the duplicate people and impute the people at the second address.

Sending this new universe of cases to Field Verification is much less expensive than sending these cases to the CFU. The CFU requires an extensive interview with the household and will allow for several callbacks in order to conduct that enumeration. Verifying the existence of a housing unit does not require that level of effort. It can often be accomplished by observation. Unduplication processing will identify a case as needing CFU followup or as needing Field Verification followup – Unduplication processing will *not* send the same housing unit to both operations. Since we believe that at such a small local level person duplication is caused mostly by address problems, sending this new universe of cases to Field Verification actually seems more appropriate than sending these cases to CFU. We believe we have a greater chance of improving census coverage by sending these cases to Field Verification. In 2010, the estimated new universe of cases in Field Verification is 4,550,000 cases, or 3.5 percent of all households.

Question for the Advisory Groups

It is possible that resources will not be sufficient to followup all CFU workload.

Currently, the CFU workload could include:

- ✂ Large household cases
- ✂ Count discrepancy cases
- ✂ Undercount coverage question cases in the following categories:
 - Children, such as newborn babies or foster children
 - Relatives, such as adult children, cousins, or in-laws
 - Nonrelatives, such as roommates or live-in baby sitters
 - People staying here temporarily
 - People moving out
 - People just moving in
 - People moving between places
- ✂ Overcount coverage question cases in the following categories:
 - To attend college
 - To stay at a seasonal or second residence
 - While in the military
 - To be closer to work
 - For a child custody arrangement
 - While in jail or prison
 - While in a nursing home
 - For another reason
- ✂ Cases identified through the use of administrative records
- ✂ Cases identified through unduplication processing

What guidance would you give us on prioritizing the CFU workload?